REMARKS

Reconsideration of the application in light of the amendments and the following remarks is respectfully requested.

Status of the Claims

Claims 1-7 are pending. Claims 1 and 6 have been amended. No new matter has been added.

Claim 1 has been amended to recite "an antenna circuit board having a first surface on which there is at least one radiating element," and "a second circuit board having a first surface on which said at least one filter and at least one amplifier are supported." Claim 6 have been amended to recite "an antenna circuit board having a first surface on which there are formed radiating elements." Applicants submit that these amendments are idiomatic in nature and do not narrow the scope of the subject matter claimed therein.

Rejection Under 35 U.S.C. § 103

Claims 1-4 and 6-7 stand rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 5,355,524 to Higgins in view of JP 63-222504 to Iwai Toru ("Iwai").

The Examiner contends that Higgins discloses a communication apparatus and a structure of a radio frequency front end which includes most of the features of independent claims 1 and 6. The Examiner acknowledges that Higgins does not disclose that the distance between the second circuit board and the antenna circuit board is substantially smaller than a quarter of a wavelength at an operation frequency of the front end. However, the Examiner cites

Iwai as disclosing this feature, and states that it would have been obvious at the time of the invention to combine Higgins and Iwai to achieve the inventions of claims 1-4 and 6-7.

Applicant submits that Higgins discloses a ceramic transmission line structure 300 which "implements a bandpass filter 206 using stripline sections 304, and 306" where "both stripline surfaces 304, 306 have ground planes 302 in [sic] their outer or first surfaces 314 and 316." (Higgins, column 5, lines 15-16, 30-31 and Figure 3.) Each stripline surface 304, 306 has conductive runners 308 having a first terminal 322 coupled to a radio antenna (not shown). The conductive runners 308 cooperate with the stripline surfaces' ground planes 302 to form a stripline filter. (Higgins, column 5, lines 39-41 and Figure 3.)

Applicant brings to the Examiner's attention that the Higgins' stripline filter is formed only after the two stripline surfaces 304, 306 are joined together. Further, Higgins discloses that an antenna is not part of the structure 300.

Claims 1 and 6 recite "an antenna circuit board having a first surface on which there" is formed radiating element(s). In contrast, Higgins does not disclose a radiating element formed on the circuit board, but merely discloses a terminal for connection to an antenna. Claim 1 also recites a second circuit board on which "at least one filter . . . is supported." Rather than disclosing a circuit board supporting a filter, Higgins discloses the components of a stripline filter, which is only formed once surfaces 304, 306 are assembled.

Additionally, claims 1 and 6 recite "a protective frame such that the antenna circuit board second surface, the second circuit board first surface and the protective frame form a substantially closed space." As recited in the claims 1 and 6 the antenna circuit board second

surface is a conductive plane, and is within the closed space. In contrast, (i) rather than disclosing "a substantially closed space," Higgins discloses the stripline sections form a solid block, but for the "groove walls 324 which form the conductive runners 308." (Higgins, column 5, lines 38-39.), and (ii) Higgins discloses that ground plane 302 is on the outside of the receiver/transmitter structure 300. Further, the Examiner states that "the mobile phone inherently has a protective frame or housing." (Detailed Action, page 3, item 2.) Applicant submits that Higgins and Iwai neither disclose nor suggest "a substantially closed space" formed from "a protective frame," "the antenna circuit board second surface," and "the second circuit board first surface," as recited in claims 1 and 6.

Applicants submit that Iwai does not disclose nor suggest those features of claims 1 and 6 missing from Higgins, as demonstrated above. Therefore, the combination of Higgins and Iwai neither discloses nor suggests, singly or in combination, the invention of claims 1 and 6. Thus, Applicant submits that the Examiner has not met the burden of establishing a *prima facie* case of obviousness over claims 1 and 6. Claims 2-4 and 7 depend from claim 1, and recite the features of claim 1 as if set forth therein. Applicant submits that claims 2-4 and 7 are patentable over the combination of Higgins and Iwai for at least the same reasons as claim 1.

Reconsideration and withdrawal of the rejection is requested.

Claim 5 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Higgins and Iwai in view of U.S. Patent No. 4,521,913 to Huber et al. ("Huber").

The Examiner acknowledges that the combination of Higgins and Iwai fails to disclose an "antenna being a multi-frequency antenna having at least two radiating elements on

the antenna circuit board." The Examiner cites Huber as disclosing a multi-frequency antenna having at least two radiating elements on the antenna circuit board. The Examiner states that it would have been obvious at the time of the invention to combine Higgins, Iwai, and Huber to achieve the invention of claim 5.

Huber discloses an antenna matching apparatus that includes a plurality of antenna tuning means 40 connected between a transmitter 10 and an antenna 50. Huber does not disclose "at least two radiating elements on the antenna circuit board" as recited in claim 5.

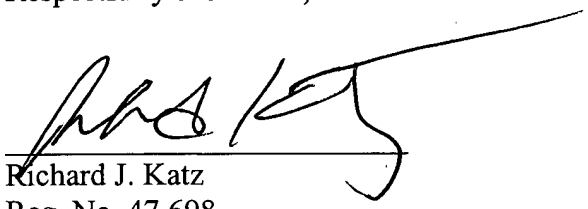
Additionally, claim 5 depends from claim 1, and recites the features of claim 1 as if set forth therein. Applicant submits that Huber does not disclose nor suggest the features of claim 5 missing from the combination of Higgins and Iwai, as discussed above for claim 1. Therefore, the combination of Higgins, Iwai, and Huber neither discloses nor suggests, singly or in combination, the invention of claim 5. Thus, the Examiner has failed to met the burden of establishing a *prima facie* case of obviousness against claim 5. Reconsideration and withdrawal of the rejection is requested.

CONCLUSION

Each and every point raised in the Office Action dated January 28, 2005 has been addressed on the basis of the above amendments and remarks. In view of the foregoing it is believed that claims 1-7 are in condition for allowance and it is respectfully requested that the application be reconsidered and that all pending claims be allowed and the case passed to issue.

If there are any other issues remaining which the Examiner believes could be resolved through a Supplemental Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned at the telephone number indicated below.

Respectfully submitted,



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